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**Amendment and Response**

Applicant: Steven J. Simske et al.

Serial No.: 10/679,154

Filed: October 3, 2003

Docket No.: 100202598-1

Title: SYSTEM AND METHOD OF SPECIFYING IMAGE DOCUMENT LAYOUT**IN THE CLAIMS**

Please amend claims 1, 3-12, 14-22, 24-33, 35-48, 50, 51, 60, 61, and 65 as follows:

1. (Currently Amended) A method of processing an image, comprising:  
receiving a definition of at least one region ~~[[i]]~~ within an image, the region definition having a location specification of the at least one defined region and a type specification of the at least one defined region;  
displaying ~~[[the]]~~ boundaries of the at least one defined region according to ~~[[i]]~~ the type specification of the at least one defined region;  
receiving a user-specified definition of a visible area ~~[[i]]~~ of the image, the visible area definition being automatically expanded to fully enclose all defined regions of the image and having a specification of margins around the image; and  
generating an image layout definition ~~comprising based on the region definition of the at least one defined region of the image and the user-specified visible area definition of the image~~.
2. (Original) The method, as set forth in claim 1, further comprising displaying the image on a display.
3. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in an image within the image~~ further comprises receiving a modality specification.
4. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image within the image~~ comprises automatically determining the definition of the at least one region ~~in the image within the image~~ by segmentation analysis of the image.
5. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image within the image~~ comprises automatically

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determining the definition of the at least one region ~~in the image~~ within the image by classification analysis of the image.

6. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image~~ within the image comprises:
- receiving a user input indicative of a point on the image; and
  - defining a region encompassing the point using segmentation and classification analyses of the image.
7. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image~~ within the image comprises:
- receiving a user input indicative of boundaries of the region on the image; and
  - receiving a user input indicative of region type and region modality specifications.
8. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image~~ within the image comprises:
- receiving a user input indicative of vertices of the region on the image; and
  - receiving a user input indicative of region type and region modality specifications.
9. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image~~ within the image comprises:
- receiving a user input indicative of vertices of a polygonal region on the image; and
  - receiving a user input indicative of region type and region modality specifications of the polygonal region.
10. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region ~~in the image~~ within the image comprises:
- receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image; and
  - receiving a user input indicative of region type and region modality specifications of the rectangular region.

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11. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of a visible area ~~in the image of the image~~ comprises receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.
12. (Currently Amended) The method, as set forth in claim 2, wherein displaying the image on a display comprises:
- receiving a user specification of a file size of the image;
  - determining a bit depth of the image;
  - determining dimensions of the image;
  - determining a display resolution in response to the file size, bit depth, and image dimensions; and
  - displaying the image on ~~[[a]]~~ the display according to the determined display resolution.
13. (Original) The method, as set forth in claim 1, further comprising:
- receiving a user specification of a file size of the image;
  - determining a bit depth of the image;
  - determining dimensions of the image;
  - determining a display resolution in response to the file size, bit depth, and image dimensions; and
  - transmitting the image having a resolution according to the determined display resolution.
14. (Currently Amended) The method, as set forth in ~~claim 1~~ claim 2, wherein displaying the image on a display comprises:
- determining a display resolution setting of a display screen;
  - determining an amount of display screen space available to display the image;
  - determining dimensions of the image;

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determining a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image; and

displaying the image on the display screen in response to the determined resolution.

15. (Currently Amended) The method, as set forth in claim 1, wherein receiving a definition of at least one region within the image comprises receiving a user specification of a location and boundaries of a region ~~in the image~~ within the image.

16. (Currently Amended) The method, as set forth in claim 15, wherein receiving a definition of at least one region within the image comprises verifying the user-specified region location and region boundaries conform to at least one region management model.

17. (Currently Amended) The method, as set forth in claim 15, wherein receiving a definition of at least one region within the image comprises receiving user specification of region type and region modality.

18. (Currently Amended) The method, as set forth in claim 16, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries overlap with another region.

19. (Currently Amended) The method, as set forth in claim 16, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries cross one another.

20. (Currently Amended) The method, as set forth in claim 16, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries fall within the visible area.

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21. (Currently Amended) The method, as set forth in claim 16, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries comply with a predetermined multiple z-order specification.
22. (Currently Amended) A method of processing an image, comprising:  
determining a definition of at least one region ~~[[in]]~~ within the image, the region definition having a location specification of the at least one region and a type specification of the at least one region;  
generating an image layout definition ~~comprising~~ based on the region definition of the at least one region of the image;  
searching for an image layout definition template that best matches the generated image layout definition, the image layout definition template including at least one defined template region specifying at least one of a location, a type, and a modality for the defined template region; and  
conforming the generated image layout definition to the best-matched image layout definition template, including adjusting at least one of the location specification, the type specification, and a modality specification of the at least one region of the image to a corresponding one of the location, the type, and the modality of the defined template region of the best-matched image layout definition template.
23. (Original) The method, as set forth in claim 22, further comprising displaying the image on a display.
24. (Currently Amended) The method, as set forth in claim 22, further comprising displaying ~~[[the]]~~ boundaries of the at least one defined region according to ~~[[its]]~~ the type specification of the at least one defined region.

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25. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises a modality specification.

26. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises automatically determining the definition of the at least one region ~~in the image~~ within the image by segmentation and classification analyses of the image.

27. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises:  
receiving a user input indicative of a point on the image; and  
defining a region encompassing the point using segmentation and classification analyses of the image.

28. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises:  
receiving a user input indicative of boundaries of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

29. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises:  
receiving a user input indicative of vertices of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

30. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises:  
receiving a user input indicative of vertices of a polygonal region on the image; and  
receiving a user input indicative of region type and region modality specifications of the polygonal region.

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31. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region ~~in the image~~ within the image comprises:

receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image; and  
receiving a user input indicative of region type and region modality specifications of the rectangular region.

32. (Currently Amended) The method, as set forth in ~~claim 22~~ claim 46, wherein ~~determining~~ receiving a definition of a visible area ~~[[in]]~~ of the image comprises receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.

33. (Currently Amended) The method, as set forth in claim 23, wherein displaying the image on a display comprises:

receiving a user specification of a file size of the image;  
determining a bit depth of the image;  
determining dimensions of the image;  
determining a display resolution in response to the file size, bit depth, and image dimensions; and  
displaying the image on ~~[[a]]~~ the display according to the display resolution.

34. (Original) The method, as set forth in claim 22, further comprising:

receiving a user specification of a file size of the image;  
determining a bit depth of the image;  
determining dimensions of the image;  
determining a display resolution in response to the file size, bit depth, and image dimensions; and  
transmitting the image having a resolution according to the determined display resolution.

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35. (Currently Amended) The method, as set forth in claim 23, wherein displaying the image on a display comprises:

determining a display resolution setting of a display screen;

determining an amount of display screen space available to display the image;

determining dimensions of the image;

determining a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image; and

displaying the image on the display screen in response to the determined resolution.

36. (Currently Amended) The method, as set forth in claim 22, wherein determining a definition of at least one region within the image comprises receiving a user specification of a location and boundaries of a region ~~in the image~~ within the image.

37. (Currently Amended) The method, as set forth in claim 36, wherein determining a definition of at least one region within the image comprises verifying the user-specified region location and region boundaries conform to at least one region management model.

38. (Currently Amended) The method, as set forth in claim 36, wherein determining a definition of at least one region within the image comprises receiving user specification of region type and region modality.

39. (Currently Amended) The method, as set forth in ~~claim 33~~ claim 37, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries overlap with another region.

40. (Currently Amended) The method, as set forth in claim 37, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries cross one another.



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41. (Currently Amended) The method, as set forth in claim 37, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries fall within the visible area.

42. (Currently Amended) The method, as set forth in claim 37, wherein verifying the user-specified region location and region boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries comply with a predetermined multiple z-order specification.

43. (Currently Amended) The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the location specification of the at least one region of the image layout definition to the location of the defined template region of the best-matched image layout definition template.

44. (Currently Amended) The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the type specification of the at least one region of the image layout definition to the type of the defined template region of the best-matched image layout definition template.

45. (Currently Amended) The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the modality specification of the at least one region of the image layout definition to the modality of the defined template region of the best-matched image layout definition template.

46. (Currently Amended) The method, as set forth in claim 22, further comprising:

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receiving a definition of a visible area ~~[[#]]~~ of the image, the visible area definition having a specification of margins around the image; and

generating an image layout definition comprising the region definition and the visible area definition.

47. (Currently Amended) The method, as set forth in ~~claim 22~~ claim 46, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the visible area definition of the image layout definition.

48. (Currently Amended) A system for processing an image, comprising:

a graphical user interface operable to display the image, and receive a definition of at least one region ~~[[#]]~~ within the image, the region definition having a location specification of the at least one defined region and a type specification of the at least one defined region,

the graphical user interface further operable to display ~~[[the]]~~ boundaries of the at least one defined region according to ~~[[its]]~~ the type specification of the at least one defined region, the graphical user interface further operable to receive a user-specified definition of a visible area having a specification of margins around the image, the visible area definition being automatically expanded to fully enclose all defined regions of the image; and

a processor generating an image layout definition ~~comprising based on~~ the region definition of the at least one defined region of the image and the user-specified visible area definition of the image.

49. (Cancelled)

50. (Currently Amended) The system, as set forth in claim 48, wherein the processor is operable to automatically determine the definition of the at least one region ~~in the image~~ within the image by segmentation analysis of the image.

51. (Currently Amended) The system, as set forth in claim 48, wherein the processor is operable to automatically determine the definition of the at least one region ~~in the image~~ within the image by classification analysis of the image.

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52. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a point on the image, and define a region encompassing the point using segmentation and classification analyses of the image.

53. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of boundaries of the region on the image, and receive a user input indicative of region type and region modality specifications.

54. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of vertices of the region on the image, and receive a user input indicative of region type and region modality specifications.

55. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of vertices of a polygonal region on the image, and receive a user input indicative of region type and region modality specifications of the polygonal region.

56. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image, and receive a user input indicative of region type and region modality specifications of the rectangular region.

57. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.

58. (Original) The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user specification of a file size of the image, determine a bit depth of the image, determine dimensions of the image, determine a display resolution in response to the

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file size, bit depth, and image dimensions, and display the image on a display according to the display resolution.

59. (Original) The system, as set forth in claim 48, wherein the processor is operable to receive a user specification of a file size of the image, determine a bit depth of the image, determine dimensions of the image, determine a display resolution in response to the file size, bit depth, and image dimensions, and transmit the image having a resolution according to the determined display resolution.

60. (Currently Amended) The system, as set forth in claim 48, wherein the processor is operable to determine a display resolution setting of a display screen, determine an amount of display screen space available to display the image, determine dimensions of the image, determine a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image, and display the image on the display screen in response to the determined resolution.

61. (Currently Amended) The system, as set forth in claim 48, wherein the processor is operable to receive a user specification of a location and boundaries of a region ~~in the image~~ within the image, and verify the user-specified region location and region boundaries conform to at least one region management model.

62. (Original) The system, as set forth in claim 61 wherein the processor is operable to determine whether the user-specified region boundaries overlap with another region.

63. (Original) The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region boundaries cross one another.

64. (Original) The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region boundaries fall within a visible area defined by a visible area definition.

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65. (Currently Amended) The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region boundaries comply with a predetermined multiple z-order specification.